

## **Summary: Planned Emission Testing at Covanta Facility**

**Location:** Union County NJ

**State Contacts:** NJDEP contacts below as suggested by Covanta

- Katrina Angarone (Associate Commissioner/Science and Policy)
- Gary Buchanan (Manager/Division of Science & Research)
- Sandra Goodrow (Fish Consumption Advisories/Division of Science & Research)
- Ken Kloo (Director/Division of Remediation Management)
- Ed Putnam (Assistant Director/Office of the Assistant Director)
- Mary Jo Aiello (Director/Division of Solid and Hazardous Waste)
- Francis Steitz (Director/Division of Air Quality)
- Richelle Wormley (Director/Division of Air Enforcement)

**Dates:**

- Target date: week of July 27, 2020
- Backup date: week of August 31, 2020

**Objectives:**

### Task 1. Characterization of Products of Incomplete Combustion (PICs)

Q: Are PICs formed during combustion and, if so, what are they? Traditional target analysis only looks for a small number of specific PFAS compounds. Non-target analysis (polar, non-polar, volatile, non-volatile) examines the full range of potential C-F molecules.

- Sampling for PFAS target analytes and non-target analytes (NTA) will be conducted using draft OTM 45
- SUMMA canister sampling will be conducted

### Task 2. Residuals Characterization

Q. What is the fate of C-F and F compounds in the flue gas cleaning system? Representative sampling of solids and effluent streams would confirm the presence or absence of PFAS compounds and whether they represent a media transfer issue.

- Sampling of bottom ash, baghouse solids, spray dryer cyclone hopper discharge

### Task 3. Surrogacy Testing

Q: Can an easily measured/monitored, hard to destroy compounds serve as a surrogate indicator for PFAS destruction? Injection of separate and/or combined surrogates will provide a test case for PFAS destructibility. The bond strength of these compounds make them the hardest PFAS compounds to degrade. Their absence ensures PFAS destruction without resorting to extensive emission sampling and analysis.

- Injection of CF<sub>4</sub> and/or C<sub>2</sub>F<sub>6</sub> (~100 ppmv) in underfire air (approx 1-2 hours total injection time)
- On-line FTIR monitoring of surrogate compounds, HF, HCl and, potentially, other compounds
- SUMMA canisters for analysis of surrogate compounds

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### **EPA/ORD and Covanta Responsibilities:**

#### Covanta Responsibilities:

- Provide information on the facility to allow for ORD to produce a QAPP.
- Provide temperature versus time profiles of the facility during anticipated operating conditions
- Facilitate surrogate injections for Task 3
- Provide CEM data during the sampling
- Supply the samples under Tasks 1 and 2 to ORD
- Ensure facility modifications, if any, to allow for surrogate gas injection into underfire air
- Allow for coordination between their sampling firm and the analytical firm, including hosting a representative on site during the testing

#### ORD Responsibilities:

- Develop QAPP, coordinating between Covanta sampling team and analytical contractor
- Contract for target analysis of samples
- Conduct NTA of samples
- Conduct analysis of SUMMA canisters
- Conduct FTIR analyses at plant
- Analyze data
- Write final report